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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,363

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Dan Pitulia

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EXAMINER

HOPKINS, CHRISTINE D

ART UNIT

PAPER NUMBER

3735

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/589,363

Applicant(s)

PITULIA, DAN

Examiner

Christine D. Hopkins

Art Unit

3735

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office Action is responsive to the Amendment filed 20 June 2007. Claims 1-5, and 7-12 are now pending. The Examiner acknowledges the amendments to claims 1, 2 and 5, as well as the cancellation of claim 6 and the addition of claims 9-12.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 12 at line 4, it is unclear as to what Applicant tends to claim by the limitation "to the user the voice of the user." Furthermore at line 4, the claim recites "the user" and "the voice of the user." There is insufficient antecedent basis for these limitations in the claim.

#### ***Claim Rejections-- 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 7-8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Lenhardt et al. (U.S. Patent No. 5,047,994). Lenhardt et al. (hereinafter Lenhardt)

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disclose a bone conduction hearing device aided by a vibratory element for transmission of frequencies across the skull. Regarding claims 1-4, Lenhardt teaches a hearing aid **11** having a bone conduction attachment ("skin penetrating member") **12** which can be embedded in the skull (temporal bone) via a screw or simply attached to the head with a clamping arrangement or headband (col. 5, lines 26-33). A vibrator of the hearing aid applies vibrations to the skull for bone conduction at varying frequencies (col. 3, lines 39-52). Frequencies that are critical for noise detection, such as a "user's voice" may be preferentially amplified (col. 4, lines 34-38), and signal processing by the aid may include filters to reduce surrounding sounds (col. 5, lines 5-14) thus relieving problems associated with stuttering.

In view of claims 5 and 8, Lenhardt teaches an adjustable "delay circuit," or the signal processing unit since the signal processing unit of Lenhardt amplifies and filters particular frequencies depending on the individual needs of a user. Some filters utilized will attenuate the signal, thus delaying its arrival to the other ear (col. 4, lines 26-51), which causes confusion and subsequently invokes stuttering.

Regarding claim 7, since Applicant fails to provide a description of the "forward directed directional microphone" of the instant application, the microphone of Lenhardt is determined to be capable of such since amplification of signals at particular frequencies allows the user to sense the direction, distance and speed of particular sounds (col. 6, lines 64-68).

With respect to claim 11, each ear of the user may receive sound information having different frequencies, such as speech embedded with background noise or the

filtering of background noise such that reduction in unwanted sound occurs (col. 5, lines 5-14).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenhardt et al. (U.S. Patent No. 5,047,994) in view of Rastatter et al. (U.S. Patent No. 5,961,443). Lenhardt et al. disclose the invention as claimed, see rejection supra; however Lenhardt fails to specifically teach a frequency shifting circuit. Although, Lenhardt indeed describes a frequency transposition section of the hearing aid (col. 3, lines 61-67). However a specific circuit for controlling such is not disclosed. Rastatter et al. (hereinafter Rastatter) teaches a device and method for ameliorating stuttering by providing an altered auditory feedback to a user. Regarding claims 9 and 10, Rastatter discloses a frequency shift circuit, used in conjunction with a delay circuit (col. 8, lines 27-37) (also as in the instant application) for returning a feedback signal to the user and for manipulating non-desireable signal distortions (col. 9, lines 27-37). Therefore, at the time of the invention it would have been obvious to one having ordinary skill in the art to have incorporated a frequency shifting circuit as suggested by Rastatter to a frequency

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transposition section of a hearing aid as taught by Lenhardt for enabling desired feedback to a user.

### ***Allowable Subject Matter***

8. Claim 12 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. The following is a statement of reasons for the indication of allowable subject matter: regarding claim 12, the prior art of record does not teach or fairly suggest receiving sound with a bone conducting hearing aid apparatus attached to a skull bone of a user, processing the sound to amplify the sound and feedback to the user and mechanically transmitting the processed sound to both inner ears of the user via the skull bone with a tactile component comprising a vibrator.

### ***Response to Arguments***

9. Applicant's arguments filed 20 June 2007 with respect to the rejection of claims 1-8 under 35 U.S.C. 102(b) citing Lenhardt ('994) have been fully considered and are not persuasive. Applicant contends that Lenhardt does not disclose an apparatus configured to carry out signal processing to amplify and feed back to the user a voice of the user and not amplify and feed back to the user sound from surrounding sources. However, this argument is not persuasive. Lendhardt indeed teaches a hearing aid **11** having a bone conduction attachment ("skin penetrating member") **12** which can be embedded in the skull (temporal bone) via a screw or simply attached to the head with a

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clamping arrangement or headband (col. 5, lines 26-33). A vibrator of the hearing aid applies vibrations to the skull for bone conduction at varying frequencies (col. 3, lines 39-52). Frequencies that are critical for noise detection, such as a "user's voice" may be preferentially amplified (col. 4, lines 34-38), and signal processing by the aid may include filters to reduce surrounding sounds (col. 5, lines 5-14) thus relieving problems associated with stuttering. Thus, specific frequencies are amplified and filtered in order to transmit to the user those sounds which are necessary to detect by the user and reduce or remove those noises deemed "ambient" by Applicant. In view of the foregoing, the rejection of claims 1-8 under 35 U.S.C. 102(b) citing Lenhardt ('994) have been maintained.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine D. Hopkins whose telephone number is (571) 272-9058. The examiner can normally be reached on Monday-Friday, 7 a.m.-3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christine D Hopkins  
Examiner  
Art Unit 3735



Charles A. Marmor, II  
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